

REMARKS/ARGUMENTS

Claims 1-26 are pending in the application. New claims 27-34 are submitted for consideration. Reconsideration and reexamination of the application are hereby respectfully requested.

In the Claims:

Claim Rejections – 35 USC §103

Claims 1--26 stand rejected under 35 USC 103(a) as unpatentable over US 5,373,905 to Bleicher in view of US 2,729,076 to Thomson. The Examiner has maintained his grounds of rejection from the previous Action and has stated that the arguments in the Reply/Amendment of February 27, 2006 were not persuasive. The Applicant traverses this rejection by reiterating while attempting to clarify his earlier arguments. Applicant respectfully protests that it is, however, difficult to argue whether the Examiner's proposed combination satisfies the claim limitations and/or is properly motivated and functional when the Examiner has not described the proposed combination with any specificity at all. The Examiner has provided little or no detail about how components from the cited references would be combined into a functional device that satisfies all the claim limitations, to say nothing of providing evidence that such a combination is suggested or motivated by the cited references.

Teaching of Prior Art Bleicher '905.

Bleicher '905 teaches a tool basically of the type described in the subject application. Indeed, it is the US counterpart of the EP 0552328 cited in the subject Specification at Para. 5 as representative of prior art clutching mechanisms for hammers of this type. Its safety clutch 10 mechanism consists of a gearwheel 12 that drives latch ring 9 via rollers 11. Latch ring 9 is axially and rotationally fixed to guide tube (spindle) 7 so that it can transmit torque thereto. Bleicher '905 col. 3 lines 56-68. Input gear wheel 12 is neither axially or rotationally fixed to guide tube 7, but is pressed rearward into driving engagement with rollers 11 and latch ring 9 by spring 15. B'905 col. 3 lines

18. Spring 15 is compressed between gear wheel 12 and washer 18 secured to guide tube 7. Id.

Regardless of how one interprets it, at the very least Bleicher '905 does not teach:

“a first clutch member . . . mounted to said spindle and to rotate therewith and slide relative thereto [and] . . . having at least one first friction surface inclined in use relative to said first axis for engaging a respective corresponding second friction surface on said spindle” (Claim 1 and 11, claim 21 similar);

“second biasing means adapted to act between said first and second clutch members for urging said second clutch member towards said first condition” (Claim 1 and 11, claim 21 similar); or

“a sliding hub which is slidably mounted on the spindle having at least one spline formed along its inner surface which engages with a corresponding trough formed along the length of the spindle characterized in that the trough and the spline are correspondingly tapered along their length” (Claim 24).

Teaching of Prior Art Thomson '076

Thus, the Examiner proposes to import into Bleicher '905 components from Thomson '076. Thomson '076 relates to a tool structure that includes a “safety slipping clutch.” T'076 col. 2. lines 28-69. Therein, (input) intermediate spindle 22 drives (output) shaft portion 23 via clutch components 14 and 15, with inter-engaging elements (teeth) 16. Driving clutch component 14 is pressed into driving engagement with driven component 15 by a “compression spring assembly” (consisting of spring 17, block 18, and ring 19) which act between the end wall 7A of the adaptor 7, in which input spindle 22 is mounted, and the disengaged side of driving component 14. T'076 col. 2. lines 32-36 and Fig. 1. Furthermore, driving component 14 is axially movable but rotationally fixed to input spindle 22 by means of interacting longitudinal splines on the radially interior and exterior faces of driving component 14 and spindle 22 respectively. T'076 col. 2. lines 51-56.

The Proposed Combination Does Not Satisfy the Limitations of Independent Claim 24

Regarding Claim 24, and assuming for the moment that there was motive or suggestion to make the proposed combination, Thomson '076 still does not provide a component splined to the spindle wherein "the trough and the spline are correspondingly tapered along their length." Nothing in the specification of Thomson describes the (unnumbered) splines on the intermediate spindle as being "tapered along their length." In fact, the unnumbered features in Fig. 1 that are presumably the splines are depicted with parallel, not tapered walls along their entire length.

The Examiner alleges to find this requirement met by "a tapered spline terminus or spline teeth flanks." Action at Page 5. Applicant respectfully disagrees. The end of the presumed splines in Fig. 1 are rounded not tapered, according to the common usage of the terms. See attached extracts from Merriam-Webster OnLine defining "taper" as "progressively narrowed" and/or "gradual diminution." Regarding the Examiner's description of allegedly tapered teeth, the Applicant notes that such spline teeth are neither described nor depicted in Thomson '076 and that the details provided in the Examiner's remarks are purely his conjecture. Even if such details are disclosed in yet a third reference, a radial taper to the teeth or a short rounded terminus to a long groove do not satisfy the limitation that the splines and troughs are "correspondingly tapered along their length." Read in light of the subject Specification at Para 71 it is clear that the splines and trough must have a corresponding taper along their axial length so that when sliding axially past each other during clutching they "produce a reaction force having a component parallel to the axis of rotation of the spindle, tending to slow down movement of the slider sleeve 41 relative to the spindle." By its own words and in view of the subject Specification, the Claim 24 limitation requiring that "the trough and the spline are correspondingly tapered along their length." cannot be satisfied by the merely rounded end of an otherwise parallel walled set of splines or by the flanks of teeth which are not depicted or described in any detail at all. Therefore, nothing in Thomson '076, even if imported into Bleicher '905, would satisfy that limitation of independent claim 24. See Thomson '076 Figs. 1 and 2, and at col. 2 lines 48-58.

The Proposed Combination Does Not Satisfy the Claim Limitations of Independent Claims 1, 11 and 21

Independent claims 1, 11, and 21 all require:

a first clutch member mounted to and axially slidable on the spindle by means of corresponding inclined first and second friction surfaces;

a first basing means acting between the spindle and the first clutch member;

a second clutch member capable of moving relative to the first between an engaged and disengaged condition with the first clutch member; and

a second biasing means acting between the first and second clutch members.

Passing over the requirement that the friction surfaces be inclined, the only components of either cited reference that arguably satisfies the first limitation above is the driving clutch component 14¹ of Thomson '076, which is splined to spindle 22. In the hypothetical combination, what is the second clutch member that engages or disengage the first clutch member? Apparently, it is one of the driven clutch component 15 of T'076, or the latch ring 9, rollers 11, or gear wheel 12 of B'905. Now, further overlooking the mechanical difficulties and functional objections to any one of these combinations, how is the limitation to a second biasing means acting between the first and second clutch members satisfied? In both cited references the spring (15 in B'095 and 17 in T'076) acts between the spindle (driven guide tube 7 in B'905 and drive spindle 22 in T'076) and an axially movable clutch component (gear wheel 12 of B'095 and driving clutch component 14 of T'076). Neither cited reference discloses a biasing means acting between a first clutch member splined to the spindle and a second clutch member movable between an engaged and disengaged position with the first clutch member.

The Examiner at Action Page 4 (bottom) to 5 (top) seems to suggest that simply because spring 47 in the subject application does not act between the engaged faces of drive gear 40 and flange 41a of slider sleeve 41, then the bias spring arrangements of

¹ In the Action at the bottom of page 4, the Examiner incorrectly asserts that "the driving component of Thomson corresponds to element 15.". In Thomson torque is transmitted from an unseen tool connected to shank 4 and then via splined shaft 22 to driving clutch component 14 into driven clutch component 15. T'076 col. 2 lines 63-71.

either T'076 and/or B'095 are the same thing and thus satisfy the claimed limitation. The Applicant respectfully disagrees. The independent claims require a biasing means acting between two clutch elements. The subject application describes and depicts such a mechanism while the cited references do not. The Examiner is incorrect in stating that "the springs of the instant application display similar physical and operational placement" to those in the references. There is no counterpart in either cited reference to subject spring 47, which acts between splined sleeve 41 and axially movable drive gear 40. Therefore, no combination of components from Thomson '076 or Bleicher '905, that would satisfy that limitation of independent claims 1, 11, and 21.

The Proposed Combination Would Be Non-Functional:

In their reply of February 27, 2006 the Applicant argued that he could not conceive of a combination of the cited references that would function properly. Indeed it was argued that it would render the Bleicher '905 clutch mechanism non-functional. The Examiner dismisses these arguments in his remarks at Action page 4. As noted above in footnote 1, however, the Examiner has misunderstood the mechanism of Thomson '076 in-so-far as he stated that "the driving component of Thomson corresponds to element 15." Clutch component 15 of Thomson '076 is the driven component, while component 14 is the driving half of the clutch assembly therein. T'076 col. 2 lines 63-72. Thus, driving clutch component 14 is most closely related to the driving gear wheel 12 of Bleicher '905.

Therefore, the Applicant stands by his original argument. In Bleicher '905 the gearwheel (12) is both axially slidable and rotatable relative to the guide tube (7). If the splined connection of the driving component (14) to shaft (22) were borrowed from Thomson '076, then the Bleicher gearwheel (12) would be splined to and rotationally fixed relative to the guide tube (7), which would render the Bleicher clutch non-functional. So, the proposed combination would be unsatisfactory, and if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to

make the proposed modification. *See, In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984), *see also* MPEP §2143.01.

The Applicant agrees with the Examiner that such a result would “defy common sense”, but the Examiner has not provided any detail about how (in his opinion) the Bleicher ‘905 and Thomson ‘076 components would be combined. In the absence of even a modestly detailed proposal from the Examiner, the Applicant has made a good faith proposal of the most obvious combination/modification of the most closely analogous components from the two cited references and has demonstrated that the result would be non-functional. The Applicant respectfully submits that if more thought and greater mechanical complexity is required to produce a functional combination from the two cited references, then that combination (which remains unarticulated) is not obvious.

The Proposed Combination Is Neither Suggested Nor Motivated By The References:

Lastly, even if the cited references could provide a selection and arrangement of components that satisfy all the claim limitations, there is no suggestion or motive to make that combination. Although a prior art device “may be capable of being modified to run the way [the patent applicant’s] apparatus is claimed, there must be a suggestion or motivation in the references to do so. *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430 (Fed. Cir. 1990). The grounds for rejection need to specifically identify the teaching and/or motivation that would lead one of ordinary skill in the art to select the references and combine them in the way proposed. *See In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002). *See also* MPEP §2143.01.

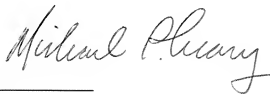
Here, the Examiner has not identified the teaching or suggestion that would motivate the proposed combination. That suggestion is not found in Bleicher ‘905 and Thomson ‘076 themselves. Both Bleicher ‘905 and Thomson ‘076 each contain an overload clutch assembly. As described and depicted in Bleicher ‘905 and Thomson ‘076, the respective clutch assemblies appear to be sufficient for their intended purposes and the Applicant can see no reason that anyone would be motivated to incorporate elements from Thomson ‘076 into Bleicher ‘905. Neither cited reference

touches on the use of tapered or inclined surfaces between a moving clutch element and the spindle to produce a counterforce that acts against decoupling movement. See Specification Para 0071. Neither cited reference discloses a drive gear 40 around a slider sleeve 41 splined to a spindle 4, with both the gear 40 and sleeve 41 axially movable, and with a spring 47 acting between them. See Claims. Therefore any attempt to cobble together a working mechanism from parts of the two cited references is mere hindsight by the light of the present application. The Applicant respectfully submits that the Examiner's invocation of "ordinary skill in the art" and/or fundamental principals ("advantages of using a spring-mass system with additional degrees of freedom") does not satisfy his obligation to "specifically identify the teaching and/or motivation" that would lead one of ordinary skill in the art to select the references and combine them in the way proposed" (emphasis added). *In re Lee*, 277 F.3d at 1343, 61 USPQ2d at 1433.. See also MPEP §2143.01.

Having traversed the §103 rejection as to the independent claims, the Applicant believes it is not necessary to separately address the numerous dependent claims.

New claims 27-34 are submitted for consideration.

Respectfully submitted



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Main Entry: ²**taper**
Function: *adjective*

1 : progressively narrowed toward one end

2 : furnished with or adjusted to a scale : **GRADUATED**
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Main Entry: **1 taper**

Pronunciation: 'tA-p&#x2011;p&#x2011;r

Function: *noun*

Etymology: Middle English, from Old English *tapor* candle, wick, perhaps modification of Latin *papyrus* papyrus

1 a : a slender candle **b** : a long waxed wick used especially for lighting candles, lamps, pipes, or fires **c** : a feeble light

2 a : a tapering form or figure **b** : gradual diminution of thickness, diameter, or width in an elongated object **c** : a gradual decrease

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